

IN THE SPECIFICATION

Please amend the specification as follows.

On page 5, lines 8-15, please amend the paragraphs as follows.

Figure 5 compares nicotine levels and the relative steady-state *NtQTP1* mRNA levels in *Nic1* and *Nic2* tobacco mutants: wild-type Burley 21 (*Nic1/Nic1 Nic2/Nic2*); *Nic1*⁻ Burley 21 (*nic1/nic1 Nic2/Nic2*); *Nic2*⁻ Burley 21 (*Nic1/Nic1 nic2/nic2*); and *Nic1*⁻ *Nic2*⁻ Burley 21 (*nic1/nic1 nic2/nic2*). SolidForward slash bars indicate mRNA transcript levels; hatchedback slash bars indicate nicotine levels.

Figure 6 charts the relative levels of *NtQPT1* mRNA over time in topped tobacco plants compared to non-topped control plants. SolidForward slash bars indicate mRNA transcript levels; hatchedback slash bars indicate nicotine levels.

On page 23, lines 9-13, please amend the paragraph as follows.

TobRD2 steady-state mRNA levels were examined in *Nic1* and *Nic2* mutant tobacco plants. *Nic1* and *Nic2* are known to regulate quinolate phosphoribosyl transferase activity and putrescence methyl-transferase activity, and are co-dominant regulators of nicotine production. The present results are illustrated in ~~Figures 5A and 5B show~~Figure 5, which shows that *TobRD2* expression is regulated by *Nic1* and *Nic2*.

On page 23, line 17 through page 24, line 6, please amend the paragraphs as follows.

Four Burley 21 tobacco lines (nic) were grown from seed in soil for a month and transferred to hydroponic chambers in aerated nutrient solution in a greenhouse for one month. These lines were isogenic, except for the two low-nicotine loci, and had genotypes of *Nic1/Nic1 Nic2/Nic2*, *Nic1/Nic1 nic2/nic2*, *nic1/nic1 Nic2/Nic2*, *nic1/nic1 nic2/nic2*. Roots were harvested from about 20 plants for each genotype and pooled for RNA isolation. Total RNA (1 μ g) from each genotype was electrophoresed through a 1% agarose gel containing 1.1 M formaldehyde and transferred to a nylon membrane according to Sambrook et al. (1989). The membranes were hybridized with 32 P-labeled *TobRD2* cDNA fragments. Relative intensity of *TobRD2* transcripts were measured by densitometry.

Figure 5 (~~solid bars~~)(forward slash bars) illustrates the relative transcript levels (compared to *Nic1/Nic1 Nic2/Nic2*) for each of the four genotypes. The relative nicotine content (compared to *Nic1/Nic1 Nic2/Nic2*) of the four genotypes is shown by the hatchedback slash bars.

Figure 5 graphically compares the relative steady state *TobRD2* 5 mRNA level, using the level found in wild-type Burley 21 (*Nic1/Nic1 Nic2/Nic2*) as the reference amount. *TobRD2* mRNA levels in *Nic1/Nic2* double mutants were approximately 25% that of wild-type tobacco. **Figure 5B5** further compares the relative levels of nicotine in the near isogenic lines of tobacco studied in this example (~~solid~~forward slash bars indicate *TobRD2* transcript levels; hatchedback slash bars indicate nicotine level). There was a close correlation between nicotine levels and *TobRD2* transcript levels.

On page 24, line 15 through page 25, line 2, please amend the paragraphs as follows.

Tobacco plants (*N tabacum* SRI) were grown from seed in soil for a month and transferred to pots containing sand. Plants were grown in a greenhouse for another two months until they started setting flowers. Flower heads and two nodes were then removed from four plants (topping). A portion of the roots was harvested from each plant after the indicated time and pooled for RNA extraction. Control plants were not decapitated. Total RNA (1 μ g) from each time point was electrophoresed through a 1% agarose gel containing 1.1M formaldehyde and transferred to a nylon membrane according to Sambrook, et al. (1989). The membranes were hybridized with 32 P-labeled *TobRD2* cDNA fragments. Relative intensity of *TobRD2* transcripts were measured by densitometry. **Figure 6** illustrates the relative transcript levels (compared to zero time) for each time-point with topping (~~solid~~forward slash bars) or without topping (hatchedback slash bars).

Relative *TobRD2* levels were determined in root tissue over 24 hours; results are shown in **Figure 6** (~~solid~~forward slash bars indicate *TobRD2* transcript levels in topped plants; hatchedback slash bars indicate the *TobRD2* transcript levels in non-topped controls). Within six hours of topping of tobacco plants, mRNA levels of *TobRD2* increased approximately eight-fold in the topped plants; no increase was seen in control plants over the same time period.